ON SCENE COORDINATOR'S REPORT

Waste Management Division

Office of Superfund

Emergency and Enforcement Response Branch

ON-SCENE COORDINATOR'S REPORT

CERCLA REMOVAL ACTION

CARTER INDUSTRIALS SITE
PHASE II
DETROIT, MICHIGAN

DELIVERY ORDER NO. 7460-05-105

SITE ID #5F

REMOVAL DATES: 10/11/88 - 5/31/89

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Office of Superfund
Waste Management Division
Region V
United States Environmental Protection Agency

EXECUTIVE SUMMARY

On October 11, 1988, the United States Environmental Protection Agency (U.S. EPA) initiated the second phase of a removal action at the Carter Industrials facility, a former metal salvaging operation, located in Detroit, Michigan. The removal action was conducted to continue site stabilization to mitigate the threats to public health posed by off-site migration of polychlorinated biphenyl-(PCB-) contaminated soils and debris. Activities included removing scrap metal, which created an attractive nuisance for site trespassing, and regrading of site grounds to facilitate placement of a synthetic or vegetative cover to control runoff, soil erosion, and wind migration of site soils.

The U.S. EPA transported 16 truckloads of PCB-contaminated debris off site to a secure landfill. Twenty-six drums containing PCB-contaminated capacitors and transformers were transported off site for incineration, and one drum of hazardous waste liquid (waste oil) was sent off site for treatment and disposal.

This removal was completed on May 31, 1989, at an estimated cost of $567,234.55, which includes $480,019.55 for the Emergency Response Cleanup Services (ERCS) contractor cost. The cumulative removal cost at this site is estimated at $2,363,359.47, which includes $1,833,678.47 for ERCS. On May 31, 1989, PRPs began a PRP-funded restart. The U.S. EPA On-Scene Coordinator (OSC) was Ralph Dollhopf of the Region V Emergency and Enforcement Response Branch Section One.

Ralph H. Dollhopf, OSC

8-22-90
Date

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DETROIT, MICHIGAN
PHASE II
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Portions of these appendices may contain confidential business information and should be reviewed by the Office of Regional Counsel prior to release to the public.

1.0 SUMMARY OF EVENTS

1.1 Site Location

The Carter Industrials (Carter) site is located at 4690 Humboldt Street, Detroit, Michigan, and covers approximately 3.6 acres with surrounding land used primarily for residential and light industrial purposes (Figure 1).

The site is bordered to the north by railroad tracks owned by Grand Trunk, Monongahela, and L.S. & M.S. Railroad (a New York line), to the south by private residences and two auto salvage yards, to the east by private residences and a pallet company, and to the west by an abandoned railroad spur and small foundry operation (Figure 2).

The nearest major waterway (approximately 2 miles south-southeast of the site) is the Detroit River, which flows south toward Lake Erie.

The Carter site is situated on flat terrain with an underlying clay deposit having a permeability of approximately 10^{-8} centimeters per second (cm/sec). The shallowest aquifer exists at a depth of 50 feet.

1.2 Initial Situation

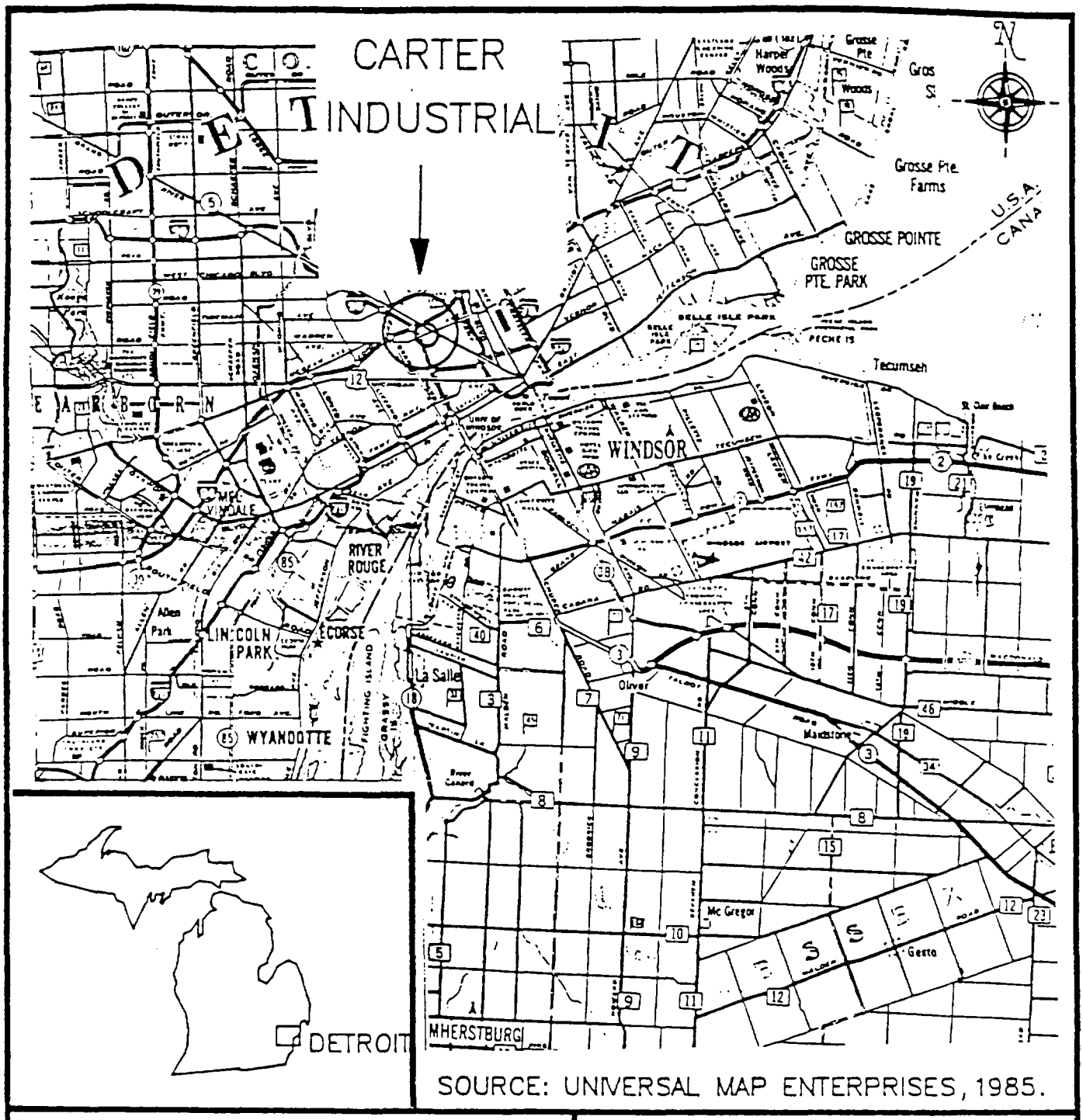
The Carter site was owned and operated by Thomas Carter from 1970 to June 1986. (Prior to 1970, Spector-Carter Metal operated the facility, and Mr. Carter was a partner). The facility was a metal salvaging operation equipped with furnaces and smelters. Operations reportedly included the draining of polychlorinated biphenyl-(PCB-)contaminated oil from transformers onto site soils, and the burning and smelting of metal and transformer-related materials.

1.2.1 State and Local Efforts to Clean Up Site

In March 1981, the Michigan Department of Natural Resources (MDNR) acted on an anonymous complaint, and collected a soil sample from the Carter site. The results indicated that the soil sample contained 560 parts per million (ppm) of PCBs.

Between October 1983 and July 1984, several complaints triggered local and state investigations to determine potential threats of exposure to contaminants. The MDNR and Detroit Public Health Department (DPHD) reported their findings to the U.S. EPA Toxic Substances Control Act (TSCA) Section.

In May 1986, the U.S. EPA TSCA Section requested that the MDNR conduct an inspection at the Carter site. The MDNR collected several soil samples and results indicated PCB concentrations up to 190,000 ppm from on-site soils and up to 96,000 ppm from adjacent off-site soils. Samples of oil found on the site revealed PCB concentrations up to 510,000 ppm.



SOURCE: UNIVERSAL MAP ENTERPRISES, 1985.

FIGURE 1

SITE LOCATION MAP

CARTER INDUSTRIAL

DETROIT, MI

SCALE: 1 inch = 14.5 miles

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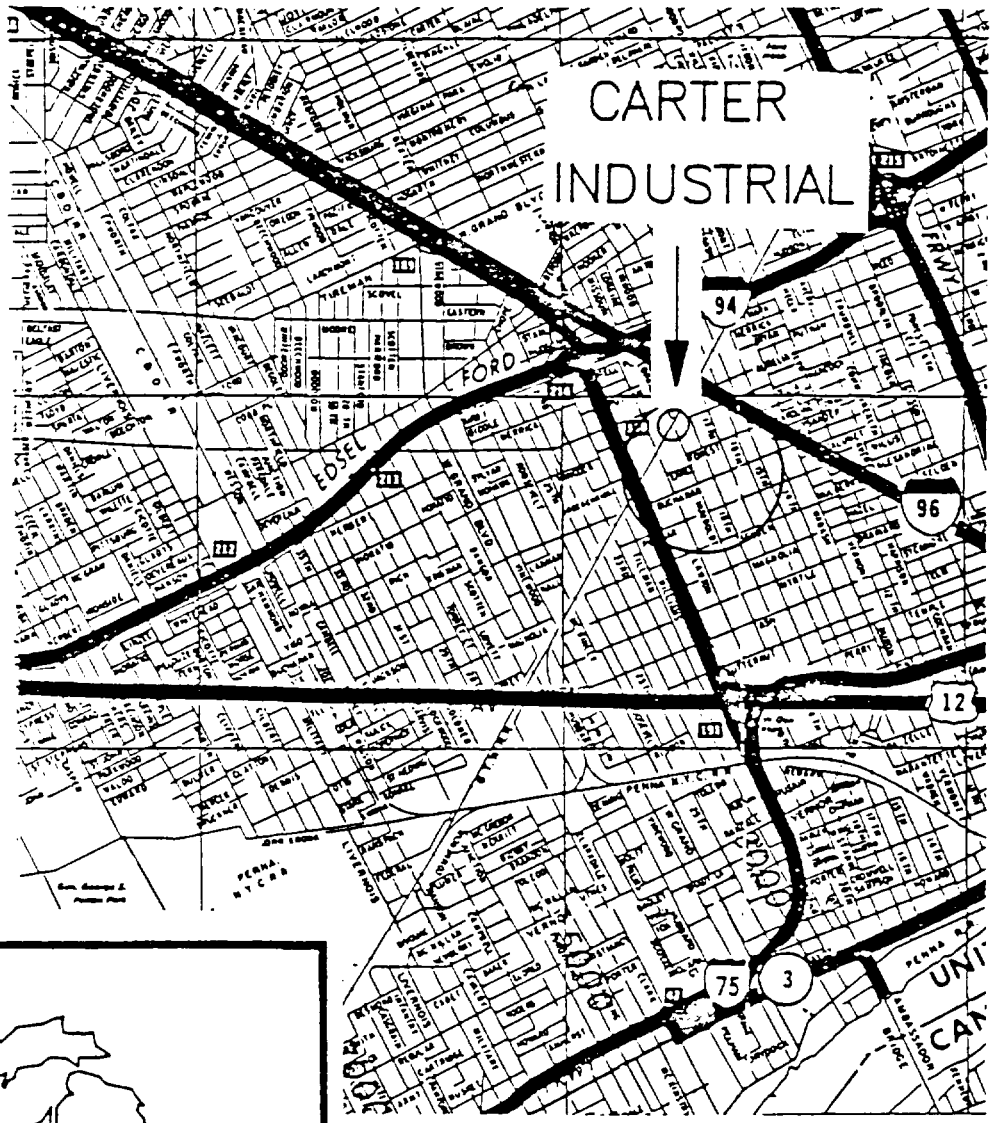

SOURCE: RAND McNALLY, 1985.

FIGURE 2

SITE LOCATION MAP

CARTER INDUSTRIAL

DETROIT, MI

SCALE: 1 inch = .73 mile

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1.2.2 Previous Federal Involvement

On June 3, 1986, the MDNR referred the Carter site to the U.S. EPA, Region V, Eastern Response Unit (ERU). On June 5, 1986, On-Scene Coordinator (OSC) Ralph Dollhopf of the U.S. EPA Region V ERU, and the Technical Assistance Team (TAT) conducted a preliminary site investigation at the Carter site.

On the evening of June 5, 1986, after the site investigation, an organizational meeting was held at the DPHD. The meeting was attended by representatives of the U.S. EPA, TAT, MDNR, DPHD, and the mayor's office. It was collectively decided that the U.S. EPA should assume the lead role in the site cleanup/removal action.

On June 6, 1986, the Carter Industrials facility ceased operations due to the commencement of an immediate removal action under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

1.3 Federal Removal Action - Phase I

On June 6, 1986, the Emergency Response Cleanup Services (ERCS) contractor, Haztech, mobilized to the Carter site. An extent-of-contamination (EOC) study was initiated by the TAT. Surface and subsurface soil samples were collected from residential and commercial lots, paved public streets, rain gutters, and city easements. The target cleanup level for PCB concentrations in soils was 50 ppm in accordance with the TSCA regulations. The Haztech crew excavated approximately 6,000 cubic yards of contaminated soil from the surrounding neighborhood and staged the soil onto the Carter facility property for future disposal or treatment. The contaminated soils from surrounding residential areas were excavated to a minimum depth of 1 foot and additional samples were collected and analyzed to determine if additional excavation was needed.

Decontamination of paved streets and structures was accomplished by use of a high pressure water unit. The TAT collected additional samples to ensure complete decontamination to required levels.

Existing scrap metal on site was decontaminated using a high pressure water unit with a penetone and water solution. Wipe samples were collected by the TAT and analyzed for PCBs to ensure complete decontamination to required levels. The scrap was stockpiled until its removal on November 12, 1986.

The Haztech crew transferred more than 200 capacitors containing PCB-contaminated oil into 82 drums for transport to Chemical Waste Management's (CWM) facility in Emelle, Alabama, for processing prior to incineration.

Twenty-eight compressed gas cylinders were observed on site. Eight were damaged, emptied, and staged as scrap metal. The manufacturers of all

but three of the remaining cylinders assumed responsibility for their removal and disposal.

Forty-eight drums containing flammable liquids and flammable solids were transported to Stablex in Rock Hill, South Carolina, for incineration. Ten drums of PCB-contaminated solids and liquids were transported to CWM's facility in Emelle, Alabama, for preparation for incineration.

To stabilize the soils on the 3.6-acre site, the Haztech crew hydroseeded the staged, excavated soils to control erosion and surface water runoff. A system to control and filter site runoff water was installed consisting of interception trenches and diversion berms to direct water to 1,000-gallon underground oil and water separation tanks which discharge into 300-gallon aboveground sand and carbon filtration units, before final discharge to city storm sewers. In August 1986, site access was restricted by installation of a 6-foot, 9-gauge industrial fence with 3 strands of barbed wire.

An Engineering Evaluation and Cost Analysis (EECA) was performed by Roy F. Weston, Inc., to help identify, screen, and evaluate appropriate technologies for remediation of long term threats to human health and the environment. The report was submitted to the U.S. EPA on December 18, 1986.

Subsequent to the demobilization of site support facilities in December 1986, efforts continued on optimization of the runoff collection and treatment system. Due to earlier problems, the system capacity was increased and the system fully winterized during September 1987. During this period, fence repair, replacement and modification were conducted on numerous occasions. Phase I activities were completed September 29, 1987.

During the period between the completion of the first removal (9-29-87) and start of Phase II removal (10-11-88), minor post-removal care (O & M) activities continued on an intermittent basis. These activities consisted of fence repair and replacement in instances where fencing was vandalized, maintenance of electric power to runoff treatment units, and minor restoration of municipal/residential properties which had been overlooked during Phase I restoration work (e.g. sidewalk repair).

1.4 Threats to Public Health and the Environment

The PCB-contaminated materials and soil which remained on site after the Phase I removal activities, combined with the proximity of the site to residential areas, presented an immediate risk to human health and the environment as outlined in Section 300.65(b)(2) of the National Contingency Plan (NCP). The threats posed by the site included the following:

- Threats to local residents of the Carter Industrials site were posed by the presence of PCB-contaminated soils, scrap and debris. Security fencing around the site's perimeter was cut

and, in some cases, completely removed on several occasions subsequent to the completion of Phase I removal activities. Such compromises allowed for continued direct contact, inhalation and ingestion threats to local residents and especially children accessing the site through unsecured site perimeters.

- The above security problems also exacerbated the threat of further release to the environment of PCB contaminants. Access to the site by pedestrians was likely to result in at least a minor degree of recontamination of off-site areas via tracking of contaminants. Escalated unauthorized access (e.g., vehicular access) would likely result in major, significant tracking of contaminants from the site.

- Unauthorized site access was eventually likely to result in tampering with or sabotage of runoff control systems, leading to system failure and further release of runoff-transported contaminants to off-site areas and the Detroit sewer system.

- Because of the site's proximity to residential areas, potential existed for transport of PCB-contaminated dust and soil from unvegetated areas of the site. The presence of considerable scrap and debris on some areas of the site's surface prevented effective vegetative cover from being established.

The level of PCB-contaminated soils and material was the most serious threat at the site. PCBs have a threshold limit valve (TLV) of 1 milligram per cubic meter (mg/m^3) and an immediately dangerous to life and health (IDLH) value of 10 mg/m^3 in air. PCBs have been found to exhibit carcinogenicity in laboratory animals. Chronic exposure to high concentrations of PCB can cause liver damage, chloracne, and other immunological effects.

1.5 Federal Removal Action - Phase II

On September 23, 1988, an action memorandum was issued by the U.S. EPA's Regional Administrator requesting an increase from $2,150,000 to $2,949,000 for additional stabilization at the Carter site. On September 30, 1988, the Region's request was approved by the Assistant Administrator. Under Section 104(e) of CERCLA, federal emergency response is limited to $2,000,000 unless three criteria are met: (1) continued response is immediately required to mitigate an emergency; (2) immediate risks to public health and the environment exist; and (3) such assistance will not otherwise be provided on a timely basis.

The Carter site Phase II removal met the criteria for the $2,000,000 exemption due to:

- The PCB-contaminated materials stockpiled on site could be blown or tracked off site due to weathering and vandalism indicating the need for continued immediate response actions;

- o An immediate risk to public health and the environment existed due to the potential threat of direct contact with PCB-contaminated material by site trespassing and wind blown migration; and

- o The PRPs identified at the time were not willing to undertake response actions, while state and local authorities were not capable of providing timely assistance due to funding problems.

The increase in funding allowed Haztech to continue with site stabilization by removing scrap metal which created an attractive nuisance for site trespassing, repairing vandalized fencing, and improving measures for site cover. The lead OSC for the Phase II immediate removal action was Ralph Dollhopf of the U.S. EPA Region V ERU.

The removal was undertaken by the Zone III ERCS contractor, PEI Associates, Inc., who subcontracted the actual site work to Westinghouse-Haztech of Sylvania, Ohio.

The objectives of the immediate removal action included:

- o Collecting and segregating of on-site scrap metal and materials into wood, concrete, plastic, and metal groups;

- o Shredding above materials to reduce volume;

- o Transporting and disposing of shredded material;

- o Decontamination of unshreddable scrap metal and removal as non-hazardous material;

- o Removing, transporting and disposing of derelict transformers and capacitors uncovered during present removal activities;

- o Repairing of vandalized fencing;

- o Final site stabilization which included: (i) construction of a silt fence to control soil erosion; (ii) recharging sand and carbon in water filtration systems; (iii) regrading of site grounds to facilitate placement of a vegetative or synthetic liner at a later date to control runoff, soil erosion, and wind migration of site soils.

For ease of discussion, this section has been divided into ten subsections, each of which corresponds to a major task of the Phase II removal action. Site conditions as of October 11, 1988, are illustrated in Figure 3. A time line of site activities is presented in Attachment A.

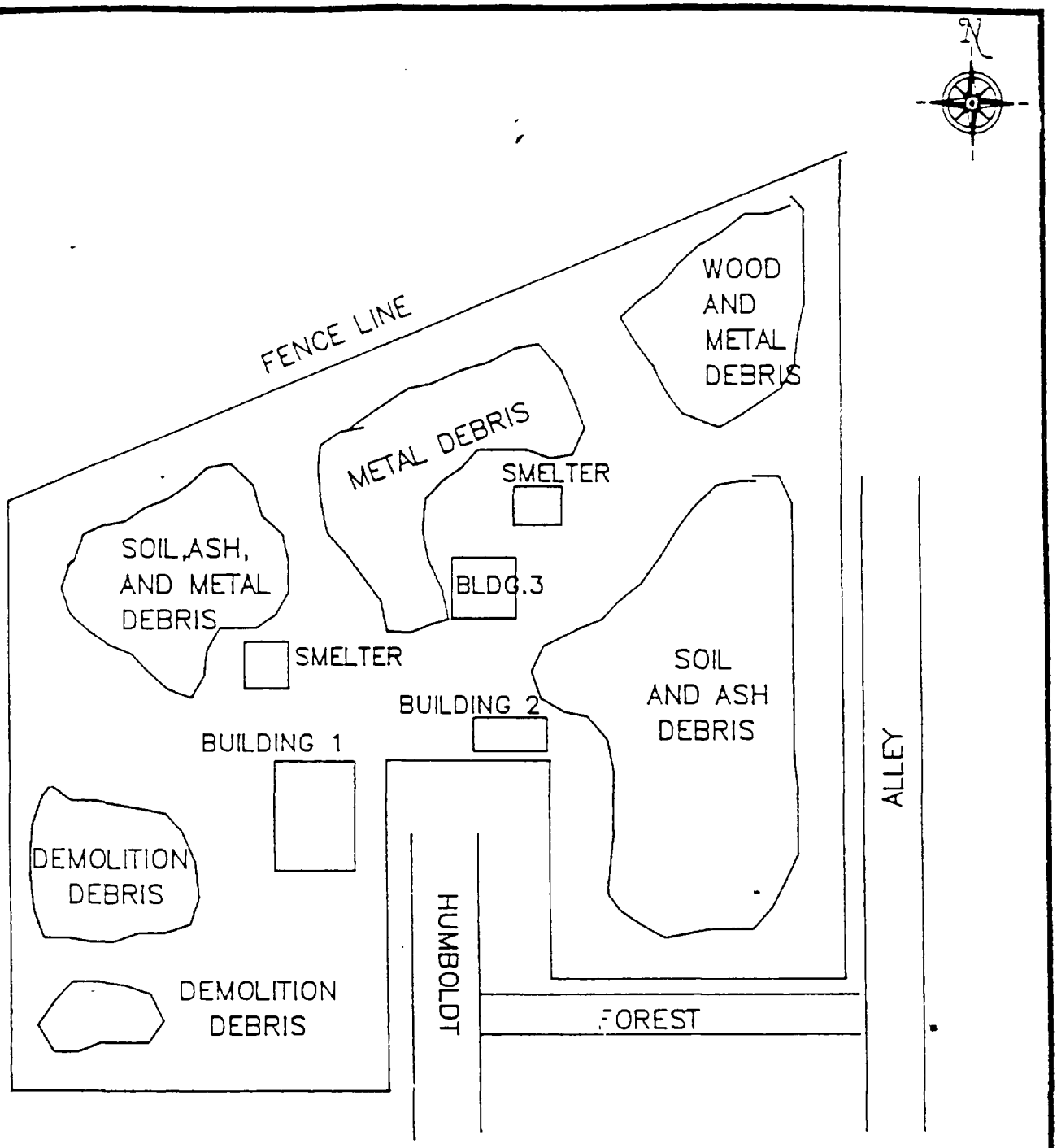

FIGURE 3
SITE CONDITIONS
PRIOR TO REMOVAL
CARTER INDUSTRIAL
DETROIT, MICHIGAN
NOT TO SCALE

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ENVIRONMENTAL PROTECTION AGENCY

1.5.1 Safety and Support Facilities

On October 6, 1988, OSC Dollhopf, and Pete Guria and Dan Capone of the TAT met with Pat Treece of Haztech on site to discuss site set-up and cleanup activities. Mobilization of the cleanup contractor and equipment began on October 11, 1988. The hot zone, contamination-reduction corridor, and support zone were delineated at this time and are shown in Figures 4 and 5. A safety plan developed by the TAT was adopted by the OSC and the cleanup contractor. Daily safety concerns were addressed during morning safety meetings held by the response manager and monitored by the TAT and OSC. Special safety considerations were given to operation of a shredding machine mobilized to reduce the volume of scrap and debris to be disposed of. While in use, the shredder could cause bodily injury, due either to the swinging boom or discharge of shredded material. Slip/trip/fall hazards were another major safety consideration due to unstable steep slopes of mounded soil from which scrap metal was being excavated.

Two decontamination pads were set up on site; one to handle decontamination of scrap metal and another to facilitate decontamination of equipment exiting the site. The location of the decontamination pads are shown in Figure 6.

On November 1, 1988, the OSC, the TAT, and local officials from the Detroit Police Department, Detroit Fire Department, and Emergency Medical Services (EMS) met to discuss and adopt a site contingency plan in the event of a fire, medical, or chemical emergency.

1.5.2 Air Monitoring

The TAT implemented an air monitoring program to detect levels of particulate matter migrating off site during site removal activities. Mini-real-time air monitoring (mini-RAM) instruments were used to gather time-weighted averages (TWA) over 8-hour periods during excavation and shredding of contaminated site debris. Instruments were placed along the east perimeter of the site, adjacent to several residences. Instrument locations are shown in Figure 7. The TAT conducted air monitoring from October 13, 1988, through November 11, 1988. Although the mini-RAM detects all particulate matter in air, for safety purposes at the Carter site, the TAT assumed that all particulates detected by the mini-RAM were PCB contaminated. The TLV-TWA of 0.5 mg/m^3 was assumed as an action level for implementing engineering controls (dust suppression). Daily TWAs during this period averaged 0.016 mg/m^3. The daily TLV-TWAs never exceeded the action level set. These are listed in Appendix B.

1.5.3 Sorting and Segregation of Debris

Site debris had been partially buried by PCB-contaminated soils which were excavated from the surrounding neighborhood and dumped on site during Phase I of cleanup operations. From October 18, 1988, to November 16, 1988, the Haztech crew excavated and segregated on-site

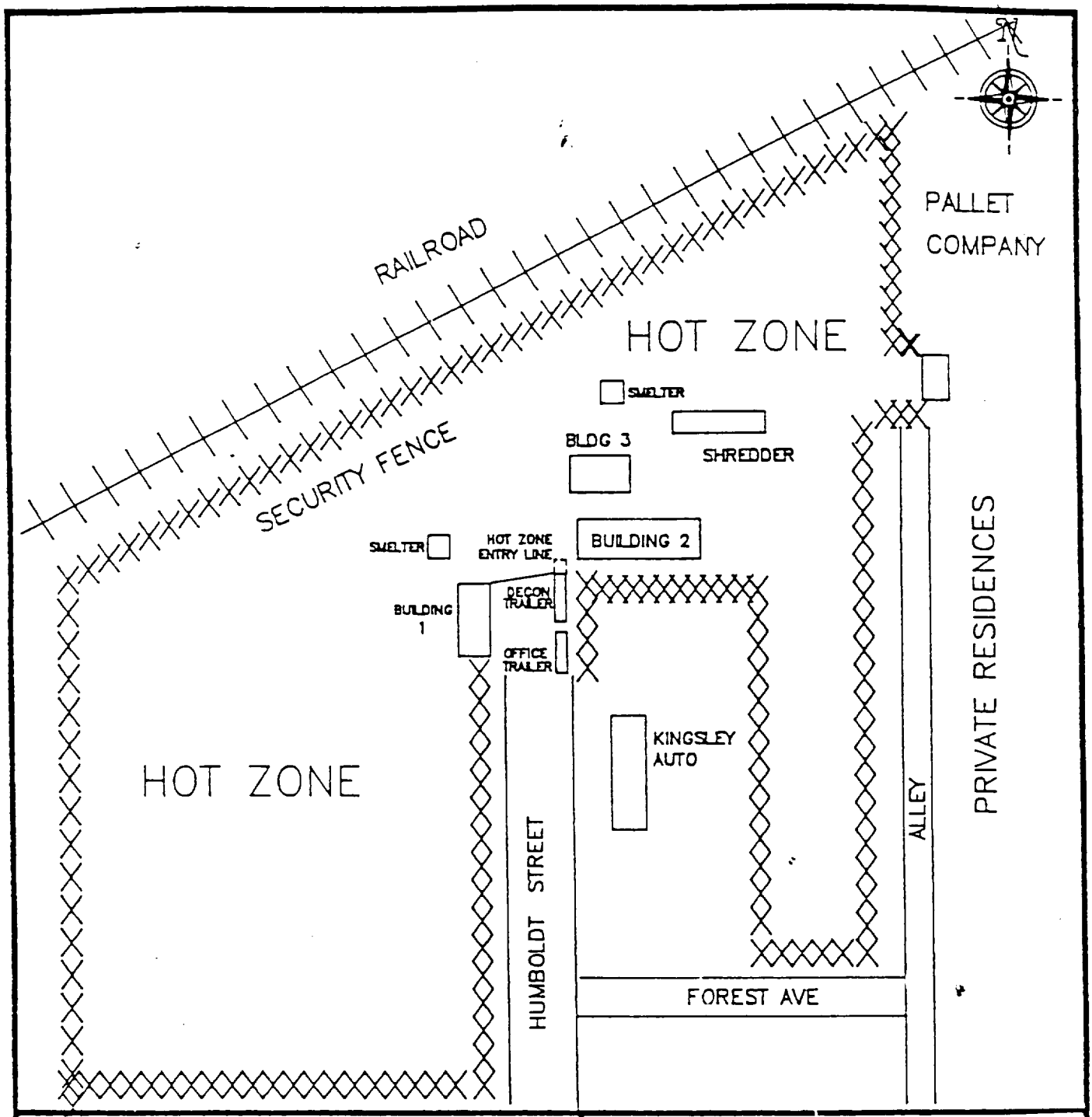

FIGURE 4

SITE MAP

CARTER INDUSTRIAL

DETROIT, MICHIGAN

NOT TO SCALE

UNITED STATES

ENVIRONMENTAL PROTECTION AGENCY

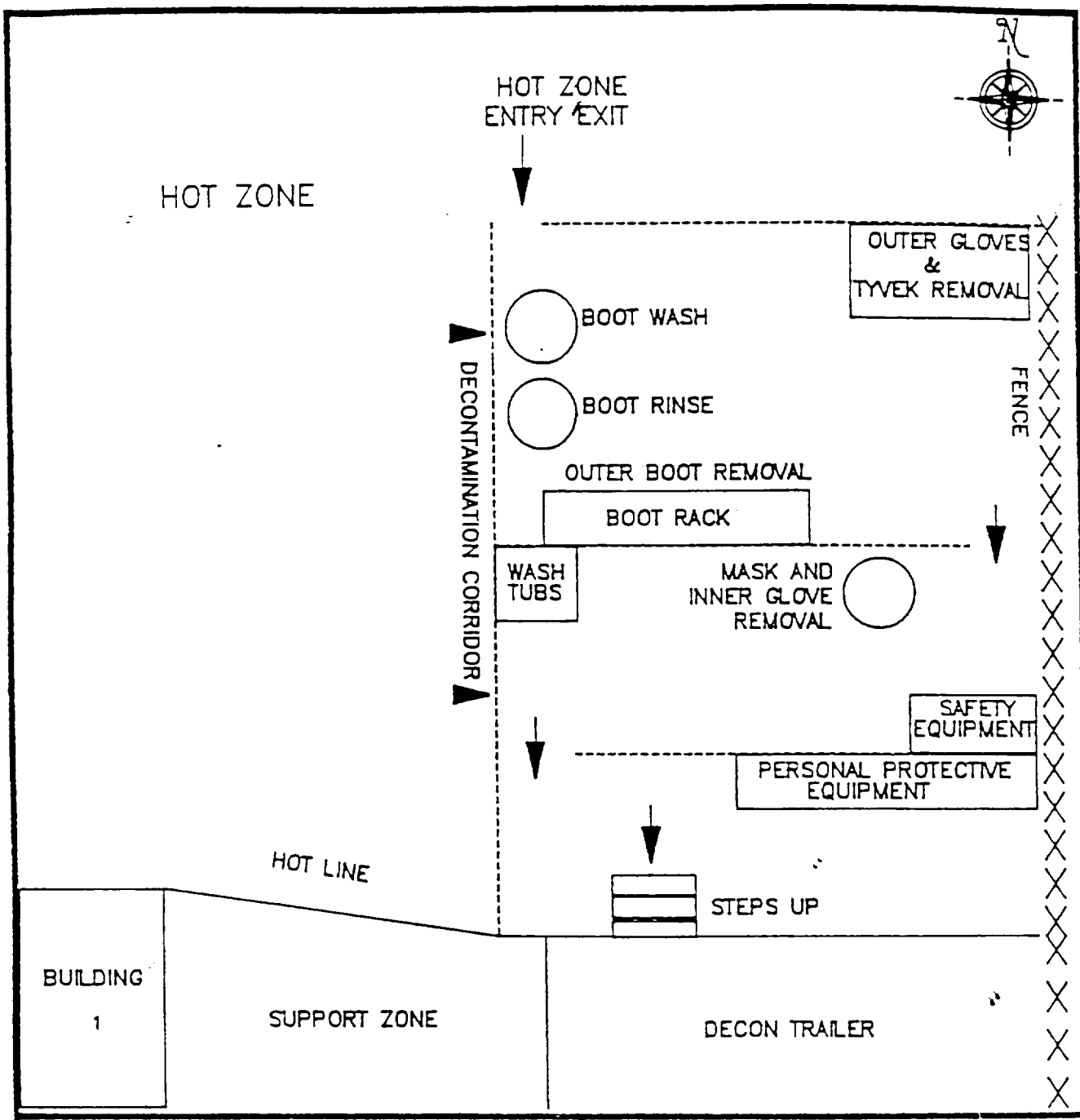

FIGURE 5
DECONTAMINATION CORRIDOR
CARTER INDUSTRIAL II
DETROIT, MICHIGAN
NOT TO SCALE

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY

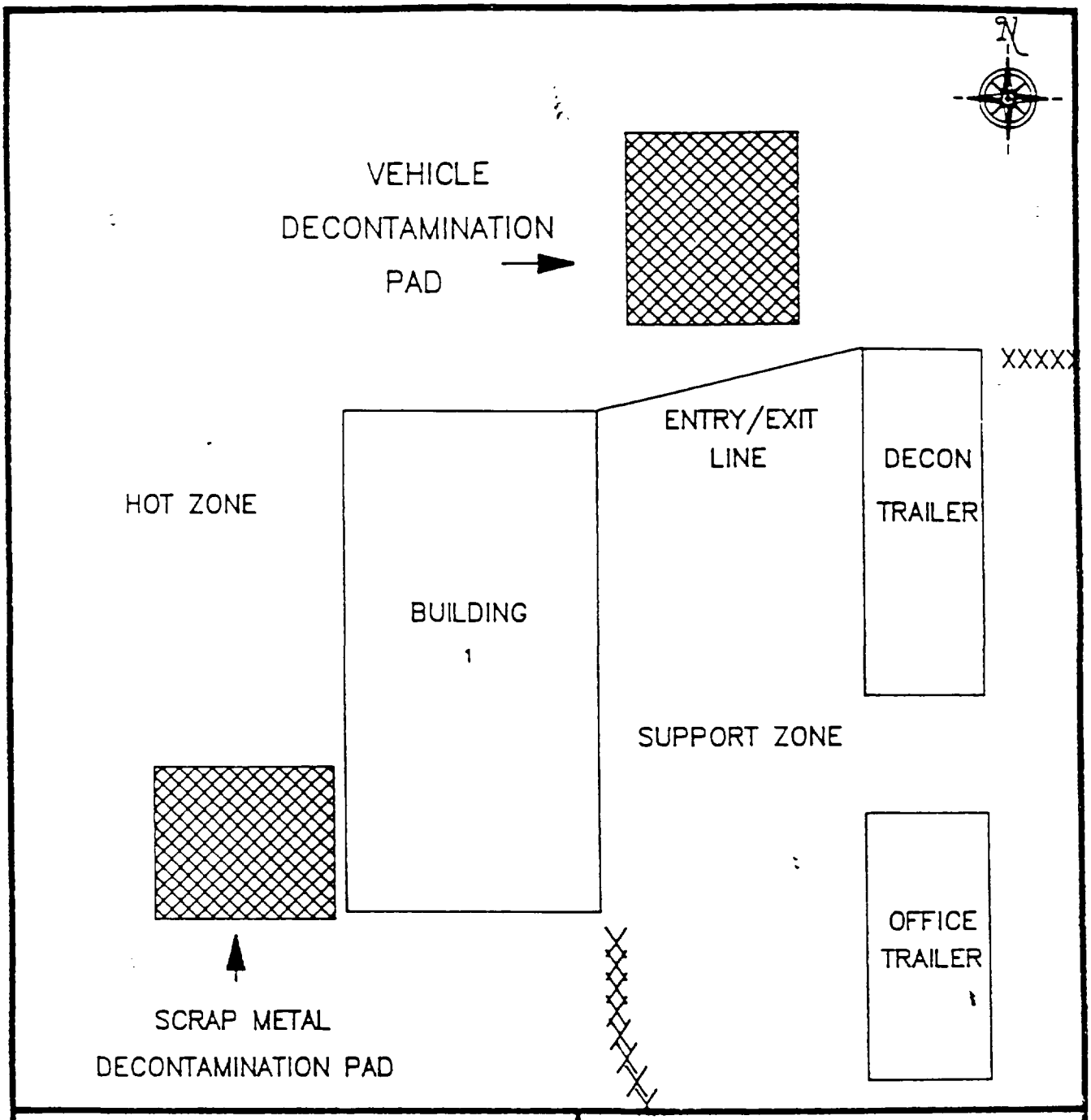

FIGURE 6

DECONTAMINATION PAD LOCATIONS

CARTER INDUSTRIAL

DETROIT, MICHIGAN

NOT TO SCALE

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ENVIRONMENTAL PROTECTION AGENCY

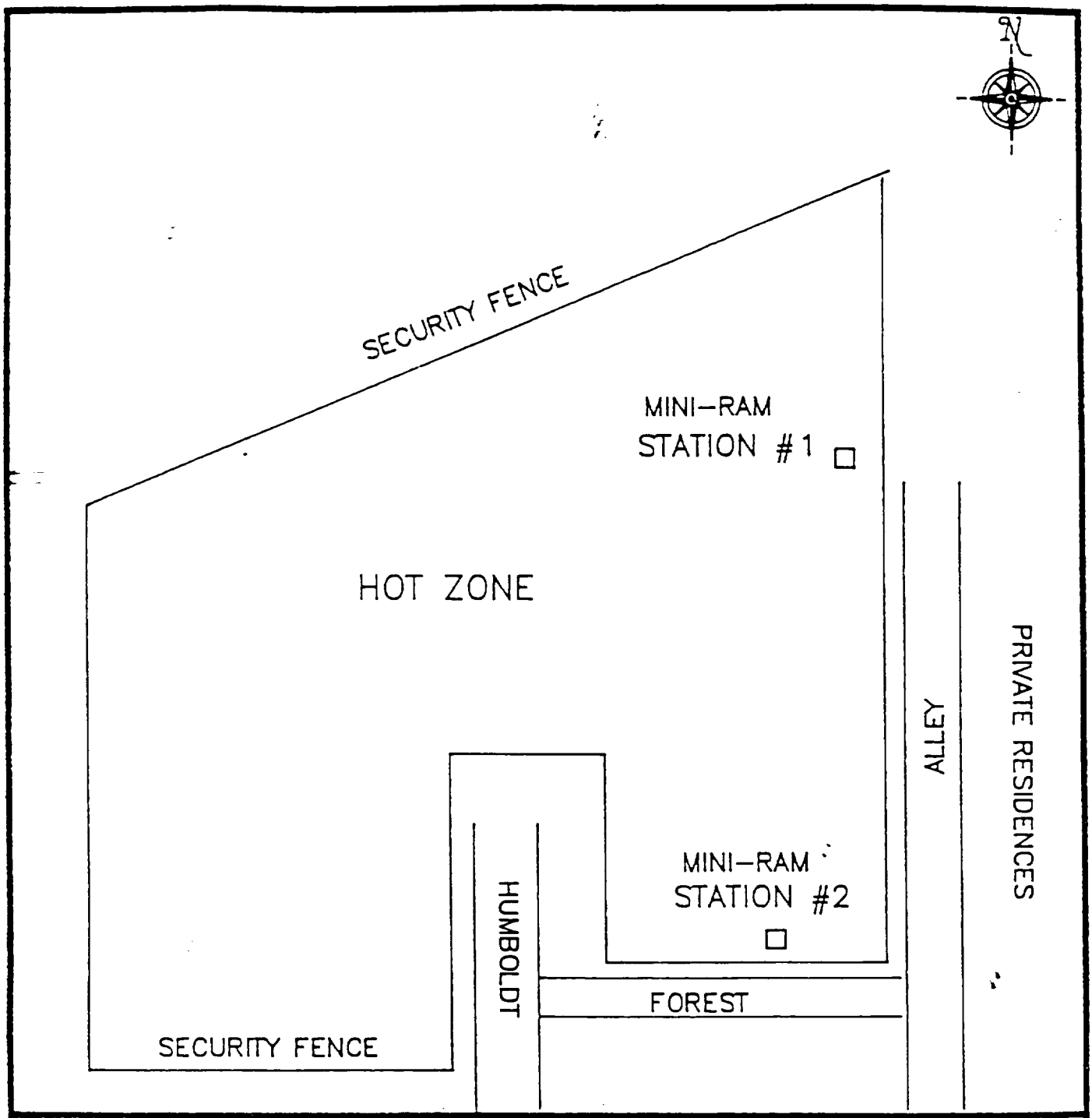


FIGURE 7
MINI–RAM
AIR MONITORING LOCATIONS
CARTER INDUSTRIAL
DETROIT, MICHIGAN

NOT TO SCALE

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY

debris into metal, wood, plastic and concrete groups using a trackhoe equipped with a demolition grappler. Front-end loaders assisted ground personnel in hand excavating smaller debris from site grounds and buildings. During this time, large pieces of concrete and machinery were collected and set aside to be dealt with at a later date. The locations of the various consolidated debris piles are shown in Figure 8.

1.5.4 Scrap Metal

During excavation and segregation of debris, large pieces of scrap metal were transported by a trackhoe or front-end loader and staged next to the decontamination pad. The scrap was then decontaminated with a steam jenny. Wipe samples of cleaned metal were collected by the TAT and analyzed to ensure thorough decontamination to less than 10 micrograms per 100 square centimeters (ug/100cm^2), the TSCA standard used as protocol for the site. Sample results are listed in the sample analysis log, Appendix U.

Decontamination water generated from this procedure was collected in a 10,000-gallon holding pool, allowed to settle, and intermittently spread out over the western portion of the site. The run off was allowed to enter the on-site drainage and filtration system before final discharge to the city's sewer system. The cleaned scrap was then loaded into roll-off boxes and staged in the support zone. The cleaned scrap was sold to a local scrap dealer at $42 per ton. Four loads totaling 46.7 tons were transported to Vito's Salvage between November 10 and 16, 1988.

1.5.5 Shredding PCB-Contaminated Site Debris

The cleanup contractor, PEI, subcontracted Tire Shredders, Inc. (TSI) to shred segregated site debris to achieve volume reduction prior to disposal. On October 25, 1988, TSI mobilized a portable shredding machine and two technicians to begin operations at the Carter site. The machine consisted of two 200-horsepower diesel engines that drive a set of stainless steel teeth. Debris was loaded into a hopper by an onboard grappling crane, occasionally assisted by a trackhoe equipped with a demolition grappler. The resulting shredded material discharged onto a conveyer belt and deposited on the ground where it was later staged by a tracked dozer. Material that was too large and/or unshreddable was staged for later removal along with the shredded debris. Shredding of on-site debris commenced on October 26, 1988, and was discontinued on November 15, 1988, due to mechanical problems. A total of 500 cubic yards of material was processed during this time.

Six hundred and sixty-six cubic yards (295.7 tons) of PCB-contaminated shredded material and debris were loaded into 16 Chemical Waste Management (CWM) trucks and transported to CWM's TSCA-approved landfill in Emelle, Alabama, for final disposal. A summary of quantities and dates of shipment are presented in Table 1.

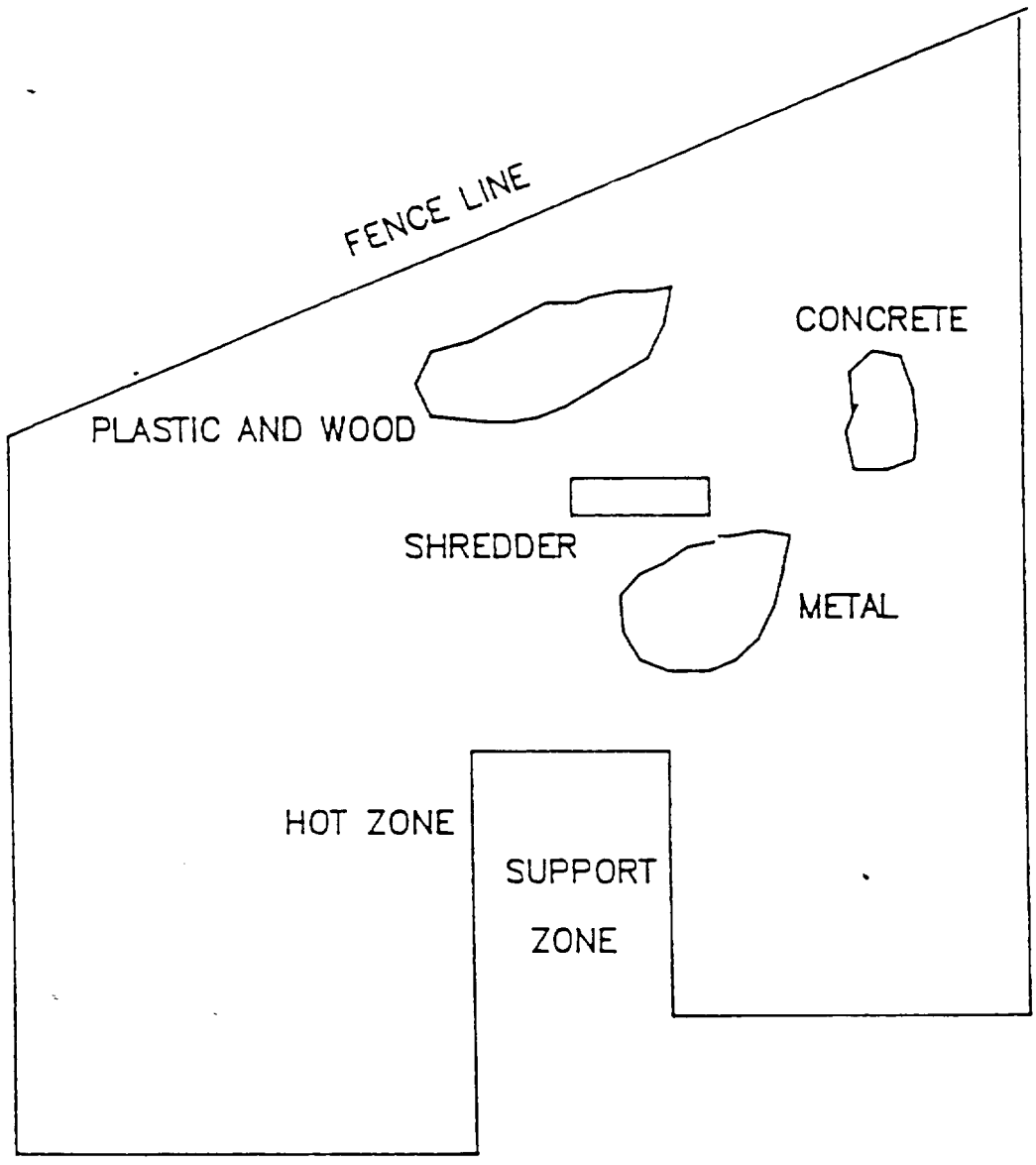


FIGURE 8

DEBRIS PILE LOCATIONS

CARTER INDUSTRIAL

DETROIT, MICHIGAN

NOT TO SCALE

UNITED STATES

ENVIRONMENTAL PROTECTION AGENCY

TABLE 1
OFF-SITE DISPOSAL SUMMARY
CARTER INDUSTRIAL, PHASE II
Detroit, Michigan

WASTE CATEGORY	QUANTITY	DATES TAKEN OFF SITE	TRANSPORTER	DISPOSAL SITE/ METHOD
Waste Hazardous Substance, Solid, N.O.S. (PCB Shredded Debris) RQ NA 9188	137,840 lbs. 140,140 lbs. 67,620 lbs. 197,800 lbs. 40,680 lbs.	11/17/88 11/18/88 11/20/88 11/21/88 11/30/88	Chemical Waste Management	Chemical Waste Management Emelle, AL/ Landfill
Waste Hazardous Substance Solid N.O.S. (PCB Transformers and Capacitors) RQ NA 9188	13,260 lbs. 26 drums	12/07/88	Aptus	Aptus Coffeyville, KS/ Incineration
Waste Oil, N.O.S. Combustible Liquid NA 1270	55 gal (one drum)	12/07/88	Petrochem	Petrochem Processing, Inc. Detroit, MI/ Treatment

1.5.6 Transformers and Capacitors

During excavation of site debris, more than 60 small transformers and capacitors were discovered. These were treated as PCB-contaminated material because they were found on the surface of or buried in PCB-contaminated soil. The capacitors and transformers were placed into 12 and 14 drums, respectively, labeled, and stayed on pallets in the support zone for later disposal. On December 7, 1988, the 26 drums were loaded and transported by Aptus to their facility in Coffeyville, Kansas, for shredding and incineration of casings.

1.5.7 Compressed Gas Cylinders

Seven compressed gas cylinders were observed during excavation of on-site debris and were classified as fire extinguisher type cylinders. Of the seven, five contained carbon dioxide, and the remaining two contained nitrogen. Three of the cylinders appeared damaged and empty. The others were opened up, their residual contents released, and the cylinders crushed. All were disposed of as contaminated site debris.

Three additional cylinders had remained staged on site awaiting future disposal as a result of the Phase I removal action. One was suspected to contain ammonia, another freon and was the property of Dupont, and the third was an acetylene cylinder which contained asbestos. These cylinders were all placed into overpacks and staged in one of the site buildings. After considering disposal options for these cylinders, OSC Dollhopf decided that they could be stored at the site, pending disposal as part of an overall site cleanup.

1.5.8 Non-PCB-Contaminated Waste Material

A 55-gallon drum containing waste oil had been staged in one of the on-site buildings during Phase I of the removal action. A sample of this oil, along with a waste characterization report, was sent to Petrochem Processing in Detroit, Michigan, for disposal analysis. Acceptance was granted on November 11, 1988. Petrochem Processing provided transportation on December 7, 1988, to their facility in Detroit for treatment.

An underground storage tank that had been discovered during the Phase I removal was further addressed during Phase II. The tank, located under the driveway east of building three, was accessed and sampled by the Haztech crew on November 14, 1988. Analytical results revealed that the sample contained 50% gasoline and 50% water. The access pipe was capped and marked. Currently, arrangements for disposal of the gasoline/water mixture are continuing.

1.5.9 Decontamination of Heavy Equipment

Decontamination of disposal trucks and on-site heavy equipment was facilitated by the construction of a decontamination pad located at the hot zone/support zone line (Figure 4). On-site roads consisting of

clean, crushed stone were built to keep contamination of disposal vehicles to a minimum. The decontamination pad itself was constructed of large metal grates, through which contaminated soils could pass back onto site soils. Visqueen was placed on the ground between the pad and the support zone. Decontamination of vehicles and equipment was accomplished by use of a pressure washer using a water and penetone mixture. Drainage of decontamination water was directed to the on-site water filtration units. Wipe samples were collected from subcontracted as well as contractor-owned equipment to ensure decontamination to acceptable levels was achieved before departure from the decontamination zone. Wipe sample results are listed in Appendix U.

1.5.10 Site Stabilization

On October 23, 1988, Haztech subcontracted a fence company to begin work to upgrade site fencing. Sections of fence were welded to existing posts along the site perimeter to prevent theft and vandalism. The vehicular gate at the site entrance was rehung and a personnel gate installed directly adjacent to it. Fence upgrading continued periodically throughout Phase II of the removal (Figure 4).

Removal of on-site scrap metal and debris permitted regrading of the site grounds in anticipation of a synthetic or vegetative cover to be placed over the site soils at a later date. Site regrading was an on-going activity commencing when each area of the site was clear of debris. During regrading, the interception trenches and diversion berms associated with the on-site drainage and filtration systems were regraded to control and handle site runoff water more effectively. Site regrading was completed on November 23, 1988.

The two above-ground filtration units were recharged with sand and carbon filter media to ensure cleaner effluent to the city storm sewers.

On November 30, 1988, a silt fence, approximately 3 feet high and 150 feet long, was installed along the western leg of the site adjacent to Humboldt street. The silt fence was installed to prevent erosion of surface soil from entering the drainage and filtration system.

1.6 Cost Summary

Daily expenditures for services provided by Westinghouse-Haztech and PEI Associates totaled $480,019.55 for the duration of the project. These daily totals are listed in Table 2.

Table 2 lists a summary of the ERCS contractor expenditures into the six categories of labor, equipment, materials, subcontractor, disposal, and analytical costs.

In addition to costs incurred through contractor services, recoverable costs were also expended by the U.S. EPA and the TAT. A summary of the total combined costs is also provided in Table 2.

TABLE 2

SUMMARY OF ESTIMATED REMOVAL COSTS
CARTER INDUSTRIALS SITE, PHASE II
DETROIT, MI
SITE ID #5F

October 11, 1988 - June 31, 1989

ERCS CATEGORY	AMOUNT
Labor	$154,236.70
Travel and Subsistence	16,119.79
Equipment	28,762.71
Materials	24,146.38
Sampling/Analysis	4,885.80
Transportation	32,884.80
Disposal	86,496.35
Other Subcontracts	132,487.02
ESTIMATED ERCS TOTAL	$480,019.55*
TAT/TES	53,662.25
EXTRAMURAL TOTAL	$533,681.80
U.S. EPA Direct	12,451.50**
U.S. EPA Indirect	21,101.25
INTRAMURAL TOTAL	$ 33,552.75**
TOTAL ESTIMATED COSTS	$567,234.55

*Based on Invoice Number 1105-4 dated March 20, 1990.
**Based on Incident Obligation Log thru 5/31/89.

Note: Any indication of specific costs incurred in this report is only an approximation and is subject to internal audit and final definitization. This report is not the final reconciliation of costs associated with the removal action.

1.7 Community Relations

A community relations program was implemented by the U.S. EPA Office of Public Affairs during Phase I of the removal action. Communications with the community, media, state, and local agencies was established. OSC Dollhopf continued these efforts throughout Phase II of the removal action.

DPHD officials, James Gray and Paul Max, frequented the site during Phase II and kept the City and local residents informed of current site activities. Steven Cunningham, MDNR, also visited the site and kept state officials informed of site progress.

A fact sheet was distributed to the local library and Detroit media by the U.S. EPA Office of Public Affairs.

On November 1, 1988, the OSC, TAT, and local officials from the police and fire departments, and EMS met to discuss and adopt a site contingency plan in the event of a fire or medical emergency.

1.8 Enforcement Activities

Prior to Phase I of the removal action, Thomas Carter, Irving Dubrinsky, and James Clark were all identified as PRPs for the Carter site. The U.S. EPA contacted these individuals, giving them the opportunity to take necessary actions to clean up the site and informing them that the agency would be initiating a removal if the PRPs took no action on their own. None of the individuals notified volunteered to take the necessary response measures. The City of Detroit was also contacted but could not assist in the cleanup because of lack of funding. The U.S. EPA then initiated its removal action.

During Phase I, the U.S. EPA continued its efforts to locate PRPs for the Carter site. Ultimately, some 30 PRPs were identified (see Attachment B). On May 5, 1989, U.S. EPA issued a unilateral order under Section 106 of CERCLA, directing the PRPs to assume responsibility for site stabilization. On May 8, 1989, several PRPs indicated their willingness to undertake the necessary actions, allowing U.S. EPA to conclude Phase II of its removal activities on May 31, 1989.

2.0 EFFECTIVENESS OF REMOVAL ACTION

2.1 Responsible Parties

As noted elsewhere, those Potentially Responsible Parties (PRPs) contacted during Phase I and Phase II declined to participate in the removal, except for those activities by the various departments of the City of Detroit - police, fire, health which were effective in assisting the OSCs on both phases of the removal. The PRP investigation was completed during this time, and 30 PRPs were identified and are listed in Attachment B.

2.2 State and Local Agencies Forces

Steve Cunningham of the MDNR, visited the site throughout the Phase II removal action and provided administrative and technical support to the U.S. EPA.

The DPHD, police department, and fire department were very supportive in their effort to assist the U.S. EPA during the Phase II removal action.

2.3 Federal Agencies and Special Teams

No other Federal Agencies were involved in Phase II removal activities.

2.4 Cleanup Contractors

The certified ERCS subcontractor, Westinghouse-Haztech, performed well, often under poor site conditions, throughout the course of the removal.

A major sub-contractor, Tire Shredders, Inc., did not perform to PEI, Haztech or OSC expectations. Although the debris-shredding services provided achieved the primary objective of waste volume reduction, frequent equipment breakdowns caused the project schedule and plans to be altered on several occasions.

3.0 PROBLEMS ENCOUNTERED

3.1 Weather

Rain occurred frequently in October and throughout most of November, causing a slowdown of site activity. Decontamination of scrap metal was not adversely affected by the weather but excavation of site debris was hampered because of mud and unstable terrain. On several occasions, heavy rains shut down site operations for the day. Disposal trucks could not be loaded during periods of heavy rain because of the potential for rain water to accumulate in the trucks during loading. A total of 3 rain-out days occurred during November.

3.2 Overloading of Trucks

Of the 16 truckloads of shredded and contaminated debris, four had to return to the site to be off-loaded because they were overweight. Department of Transportation regulations require axle weight restrictions for semi-tractors and trailers. When the trucks were loaded, care was taken to make sure the load was distributed as evenly as possible. Operators loading the material had difficulty placing the debris due to visual obstruction from the sides of the trailer. Axle weights were not determined until the trucks reached the scales several miles from the site.

3.3 Compressed Gas Cylinder Disposal

Of the seven cylinders found on site, three still posed disposal problems: the ammonia cylinder, the Dupont freon cylinder, and the acetylene cylinder containing asbestos. During Phase I of the removal activity, Cylinder Recon of Kearny, New Jersey, was contacted for identification and disposal. At that time, cost effectiveness considerations suggested that the cylinders remain on site to await future disposal options.

During Phase II, specifications for the above cylinders were sent to Victor Givens of Atlantic Analytical located in Whitehouse, New Jersey. After considering other possible options, the OSC determined that it would be more cost effective to keep the cylinders on site and deal with them as part of an overall cleanup effort, than to dispose of them right away.

3.4 Shredding Machine Downtime

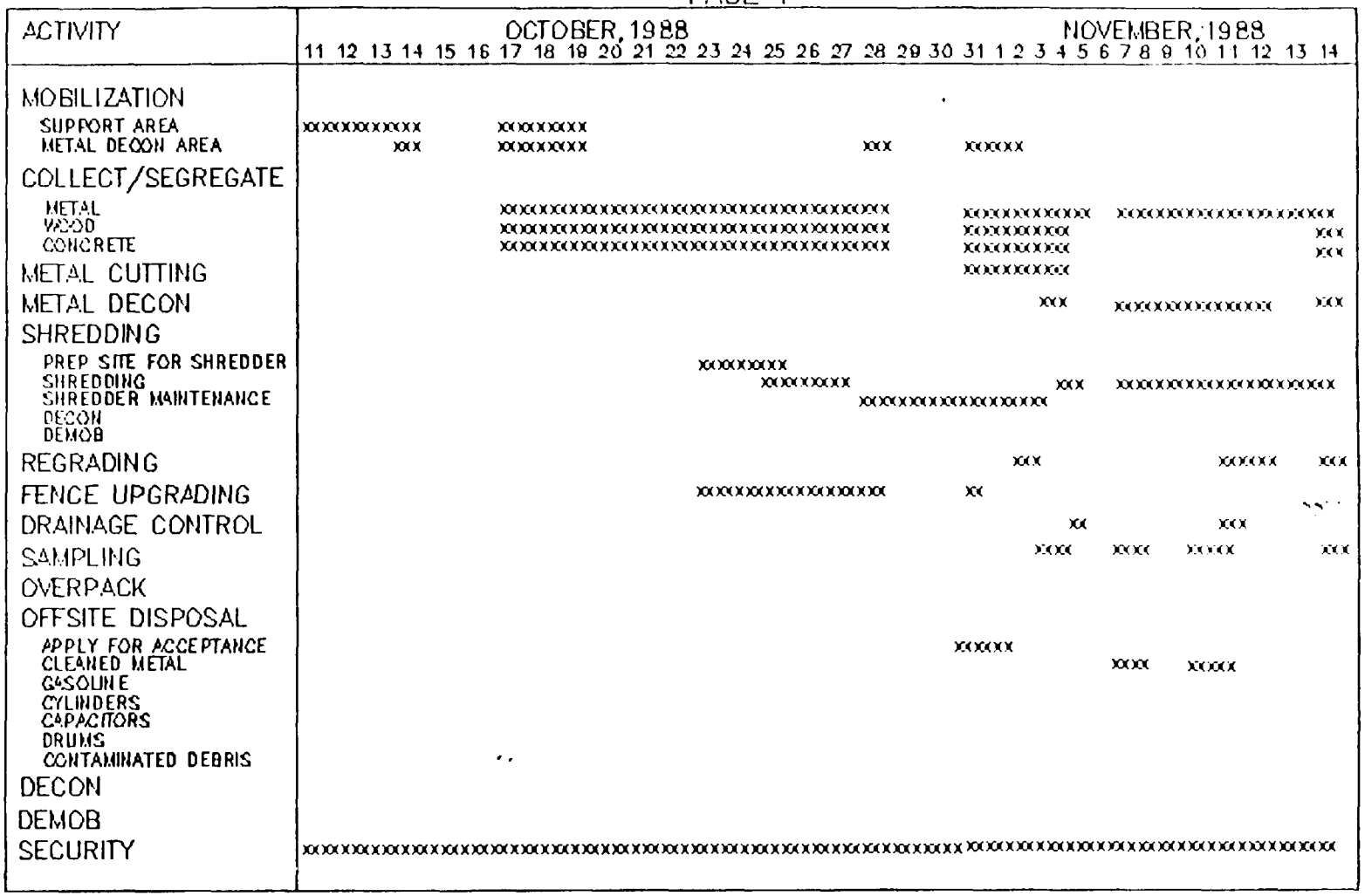
A series of mechanical problems hampered shredding of on-site debris. Frequent hydraulic line failure led to numerous hours of operational downtime while repairs were being made. Shredding progress began to slow as a result of broken and dull teeth. This eventually led to removal and replacement of the entire set of teeth. TSI experienced many delays in delivery and installation, putting the machine out of service for 1 week. Once repaired, the machine ran for 7 days without a breakdown. Overheating and dulling of teeth once again halted shredding operations permanently on November 15, 1988.

4.0 OSC RECOMMENDATIONS

Phase II removal actions will assuredly result in significant reductions of unauthorized site access and potential migration of contaminants off-site.

Nonetheless, the OSC recommends that arrangements for continuous, round-the-clock security presence (guards) be implemented and maintained by the PRPs until such time as all site wastes have been removed or treated. Without such absolute deterrence, potential for re-contamination of the surrounding neighborhood will continue to exist and will likely increase to a point where subsequent off-site mitigation will be required.

ATTACHMENT A
ON–SITE ACTIVITY
CARTER INDUSTRIAL, PHASE II
PAGE 1



ATTACHMENT A
ON-SITE ACTIVITY
CARTER INDUSTRIAL, PHASE II
PAGE 2

ACTIVITY	NOVEMBER, 1988 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30	DECEMBER, 1988 1 2 3 4 5 6 7
MOBILIZATION		
SUPPORT AREA		
METAL DECON AREA		
COLLECT/SEGREGATE		
METAL	xxxxx	
WOOD	xxxxx	
CONCRETE	xxxxx	
METAL CUTTING		
METAL DECON	xxx	
SHREDDING		
PREP SITE FOR SHREDDER		
SHREDDING	xxx	
SHREDDER MAINTENANCE	xxxxxxxxxxx	
DECON		
DEMOB	xxx	
REGRADING	xxxxxxxxxxxxxxxxx xxxxx	
FENCE UPGRADING	xxxxx	
DRAINAGE CONTROL	xxx xxxxx xxx	
SAMPLING		
OVERPACK	xxxxxxxx	
OFFSITE DISPOSAL		
APPLY FOR ACCEPTANCE		
CLEANED METAL	xxxxx	
GASOLINE		*
CYLINDERS		xx
CAPACITORS		xx
DRUMS		xx
CONTAMINATED DEBRIS	xxxxx xxxxxxxx xxx	
DECON	xxx xxxxxxxx	
DEMOB	xxxxx xxxxxxxx xxxxxxxxxxx	xx
SECURITY	xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx	

ATTACHMENT B
POTENTIALLY RESPONSIBLE PARTIES
CARTER INDUSTRIALS, PHASE II
DETROIT, MICHIGAN

Thomas Carter
1826 Chatham
Troy, MI 48084

City of Detroit
Jefferson Avenue Sewage
Treatment Plant
735 Randolph
Detroit, MI 48226

David Gordon
Mary Gordon
c/o 5960 Vancouver
Detroit, MI 48204

Ed Levy Company
ATTN: S.Evan Weiner, V.P.
8800 Dix Avenue
Dearborn, MI 48209

General Motors Corporation
Central Foundry Division
1805 Veteran Memorial Pkwy.
Saginaw, MI 48601

J.E. Berger Corporation
P.O. Box 02669
5300 Bellevue Avenue
Detroit, MI 48211

Medsker Electric, Inc.
ATTN: Robert P. Medsker
28650 Grand River
Farmington, MI 48024

River Electric Co., Inc.
P.O. Box 108
160 Catrell Drive
Howell, MI 48844

Shaw Electric Company
ATTN: George Friess, Pres.
P.O. Box 2217
33200 Schoolcraft Road
Livonia, MI 48150

Thomas Goodfellow Trucking
5201 Rosa Parks Blvd.
Detroit, MI 48208

Chrysler Corporation
ATTN: Michael Grice
1200 Chrysler Drive
P.O. Box 2255
Detroit, MI 48288

Consumers Power Company
1955 West Parnall Road
Jackson, MI 49201

Detroit Edison
4695 West Jefferson
Trenton, MI 48183

Fischer Body
3001 VanDyke Avenue
Warren, MI 48093

Gordon Electric
ATTN: David Gordon
5960 Vancouver
Detroit, MI 48204

James Clark
2713 Earle Place
Detroit, MI 48208

Michigan Bell Telephone
ATTN: Brian J. Jordan, Atty.
444 Michigan
Detroit, MI 48226

Rouge Steel Company
Ford Motor Company
3001 Miller Road
Dearborn, MI 48120

Standard Lead Co., Inc.
ATTN: Ansel Aberly, Pres.
21000 Hoover Road
Warren, MI 48089

Chrysler Corporation
Sterling Heights Assembly
3811 VanDyke
Sterling Heights, MI 48659

City of Detroit
Dept. Public Lighting
ATTN: W.F. Gaughan, Sup.
9449 Grinnel Avenue
Detroit, MI 48213-1176

Cotter Electric
ATTN: William L. Cotter
160 Catrell
Howell, MI 48843

Detroit Edison
ATTN: Morton Sterling
Environ. Protection
2060 2nd Street
Detroit, MI

Ford Motor Company
ATTN: J.M. Rintamaki
P.O. Box 1639
Dearborn, MI 48121

Irving Dubrinskey
P.O. Box 32622
Detroit, MI 48332

Myra Carter
1826 Chatham
Troy, MI 48084

Minkin Chandler
ATTN: Jerold R. Mikin
13501 Sanders
Detroit, MI 48217

GM Iron Plant
Saginaw Grey Iron Plt.
1629 N. Washington Ave.
Saginaw, MI 48601

Detroit Edison
ATTN: Walter J. McCarthy
2000 Second Avenue
Detroit, MI 48226

W.C. Electric Company
5449 Sylvia
Dearborn Heights, MI